

C 1 13726 SEQUENCE NO. (MDE USE ONLY)

STATE OF MARYLAND WELL COMPLETION REPORT FILL IN THIS FORM COMPLETELY PLEASE TYPE

THIS REPORT MUST BE SUBMITTED WITHIN 45 DAYS AFTER WELL IS COMPLETED.

(THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

COUNTY NUMBER

ST/CO USE ONLY DATE RECEIVED MM DD YY

DATE WELL COMPLETED MM DD YY

Depth of Well 500 (TO NEAREST FOOT) 5/3/2012

PERMIT NO. FROM "PERMIT TO DRILL WELL" HO-95-2178

OWNER Sullivan Mike WELL SITE ADDRESS 3621 MacAlpine Road TOWN Ellicott City SUBDIVISION Ellicott City SECTION LOT 28

WELL LOG Not required for driven wells

Table with columns: DESCRIPTION (Use additional sheets if needed), FEET (FROM, TO), check if water bearing. Rows include Soil, Clay + Boulders, Brown shale, Boulders + Loose Rock, Schist.

GROUTING RECORD

WELL HAS BEEN GROUTED (Circle Appropriate Box) YES Y NO N TYPE OF GROUTING MATERIAL (Circle one) CEMENT CM BENTONITE CLAY BC NO. OF BAGS 30 NO. OF POUNDS 1500 GALLONS OF WATER 750 DEPTH OF GROUT SEAL (to nearest foot) from 2 ft. to 500 ft.

CASING RECORD

MAIN CASING TYPE ST Nominal diameter top (main) casing (nearest inch) 6 Total depth of main casing (nearest foot) 85

OTHER CASING (if used) diameter inch depth (feet) from to

SCREEN RECORD

screen type or open hole (insert appropriate code below) ST BR HO PL OT

PUMPING TEST

HOURS PUMPED (nearest hour) 8 9 PUMPING RATE (gal. per min.) 11 15 METHOD USED TO MEASURE PUMPING RATE WATER LEVEL (distance from land surface) BEFORE PUMPING 17 20 ft. WHEN PUMPING 22 25 ft. TYPE OF PUMP USED (for test) A air P piston T turbine C centrifugal R rotary O other J jet S submersible

PUMP INSTALLED

DRILLER INSTALLED PUMP (CIRCLE) (YES or NO) YES NO IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS. TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O) IN BOX 29 CAPACITY: GALLONS PER MINUTE (to nearest gallon) 31 35 PUMP HORSE POWER 37 41 PUMP COLUMN LENGTH (nearest ft.) 43 47 CASING HEIGHT (circle appropriate box and enter casing height) LAND SURFACE (nearest foot) 49 51

NUMBER OF UNSUCCESSFUL WELLS: 0

WELL HYDROFRACTURED YES Y NO N

CIRCLE APPROPRIATE LETTER A A WELL WAS ABANDONED AND SEALED WHEN THIS WELL WAS COMPLETED E ELECTRIC LOG OBTAINED P TEST WELL CONVERTED TO PRODUCTION WELL

I HEREBY CERTIFY THAT THIS WELL HAS BEEN CONSTRUCTED IN ACCORDANCE WITH COMAR 26.04.04 "WELL CONSTRUCTION" AND IN CONFORMANCE WITH ALL CONDITIONS STATED IN THE ABOVE CAPTIONED PERMIT, AND THAT THE INFORMATION PRESENTED HEREIN IS ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE.

DRILLERS LIC. NO. M WD 355

DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION)

LIC. NO. A WD 766

SITE SUPERVISOR (sign. of driller or journeyman responsible for sitework if different from permittee)

DEPTH (nearest ft.)

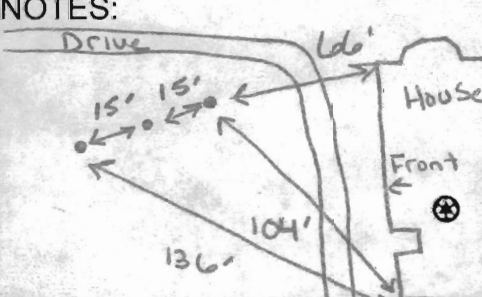
Table with columns: E A C H S C R E E N, rows for depth intervals (1-11, 11-15, 15-17, 17-21, 21-23, 23-24, 24-26, 26-30, 30-32, 32-36, 36-38, 38-39, 39-41, 41-45, 45-47, 47-51)

GRAVEL PACK IF WELL DRILLED WAS FLOWING WELL INSERT F IN BOX 68

MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER) T (E.R.O.S.) W Q

TELESCOPE CASING LOG INDICATOR OTHER DATA

LATITUDE 39.16253 LONGITUDE 76.49794 (DEFAULT COORD. WGS 84)



B 1 2268

SEQUENCE NO. (MDE USE ONLY)

STATE OF MARYLAND APPLICATION FOR PERMIT TO DRILL WELL

STATE PERMIT NUMBER

HO-95-2178 fill in this form completely

535252 please type

Date Received (APA)

06/30/11

OWNER INFORMATION

Sullivan Mike 3621 Mac Alpine Rd Ellicott City MD 21043

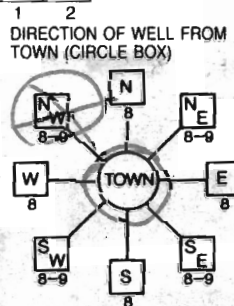
LOCATION OF WELL

Howard Ellicott City SECTION 28 LOT 28 Ellicott City

DRILLER INFORMATION

Michael Barlow MWD355 Barlow Well Drilling 522 Underwood Lane 21014

DIRECTION OF WELL FROM TOWN (CIRCLE BOX)



3621 Mac Alpine Rd

NEAR WHAT ROAD ON WHICH SIDE OF ROAD DISTANCE FROM ROAD TAX MAP: 24 BLK: 11 PARCEL 1006

WELL INFORMATION APPROX. PUMPING RATE 0 AVERAGE DAILY QUANTITY NEEDED 0

USE FOR WATER (CIRCLE APPROPRIATE BOX)

- DOMESTIC POTABLE SUPPLY & RESIDENTIAL IRRIGATION FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION) INDUSTRIAL, COMMERCIAL, DEWATERING PUBLIC WATER SUPPLY WELL TEST, OBSERVATION, MONITORING GEO-THERMAL 4 Bores x 375

NOT TO BE FILLED IN BY DRILLER HEALTH DEPARTMENT APPROVAL

Howard 13 Public COUNTY NAME COUNTY NO. STATE SIGNATURE DATE ISSUED 7/15/2011 Brian Baker 7/15/2012

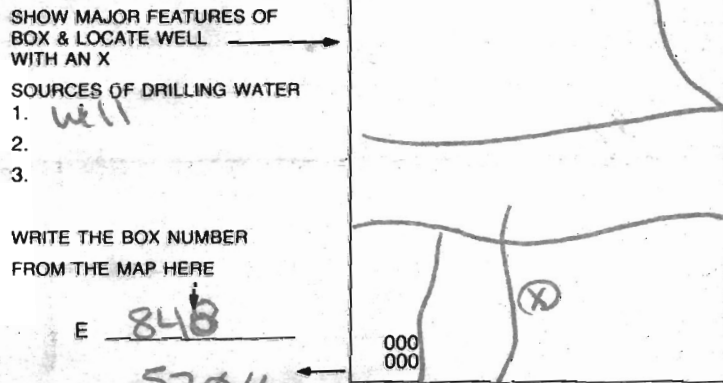
APPROXIMATE DEPTH OF WELL 375 FEET APPROXIMATE DIAMETER OF WELL 6 INCH NEAREST

METHOD OF DRILLING (circle one)

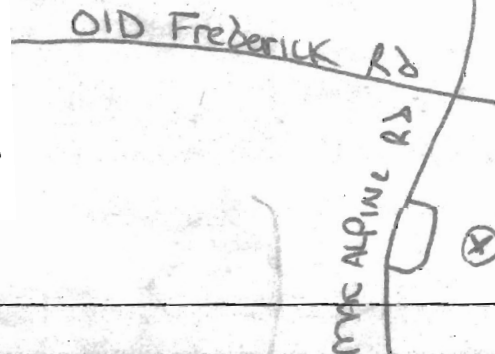
BORED (or Augered) JETTED Jetted & DRIVEN AIR-ROTary AIR-PERCussion ROTARY (Hydraulic Rotary) CABLE REVERSE-ROTary Drive-POINT

REPLACEMENT OR DEEPEMED WELLS (CIRCLE APPROPRIATE BOX)

- THIS WELL WILL NOT REPLACE AN EXISTING WELL THIS WELL WILL REPLACE A WELL THAT WILL BE ABANDONED AND SEALED THIS WELL WILL REPLACE A WELL THAT WILL BE USED AS A STANDBY-CONTACT LOCAL APPROVING AUTHORITY FOR POLICY ON STANDBY WELLS THIS WELL WILL DEEPEM AN EXISTING WELL PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPEMED (IF AVAILABLE)



DRAW A SKETCH BELOW SHOWING LOCATION OF WELL IN RELATION TO NEARBY TOWNS AND ROADS AND GIVE DISTANCE FROM WELL TO NEAREST ROAD JUNCTION



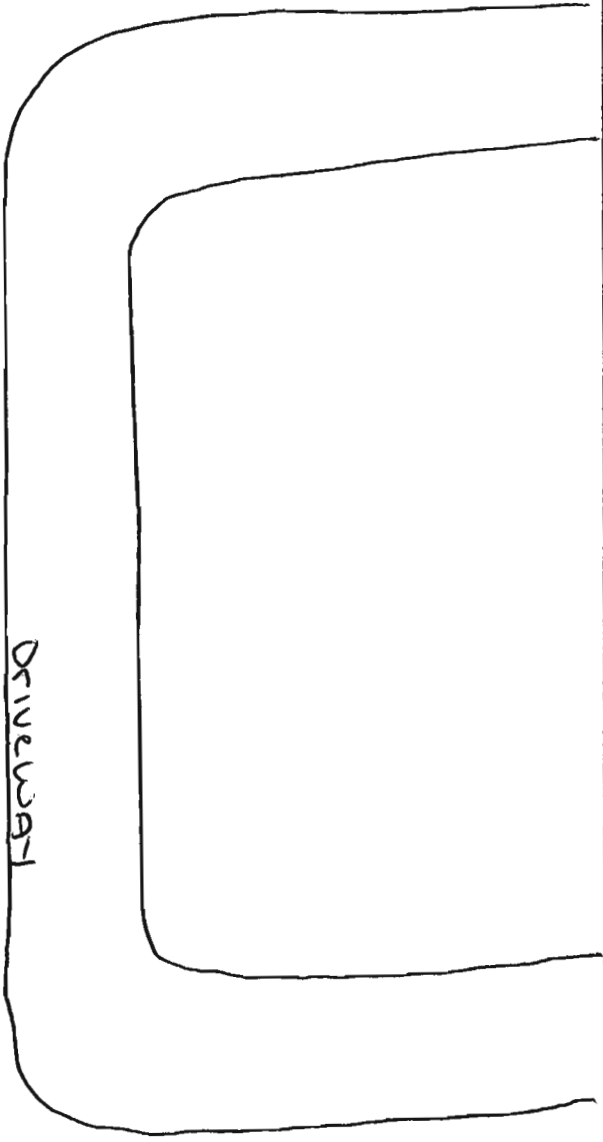
Not to be filled in by driller (MDE OR COUNTY USE ONLY)

APPROX. PERMIT NUMBER G PERMIT No. HO-95-2178

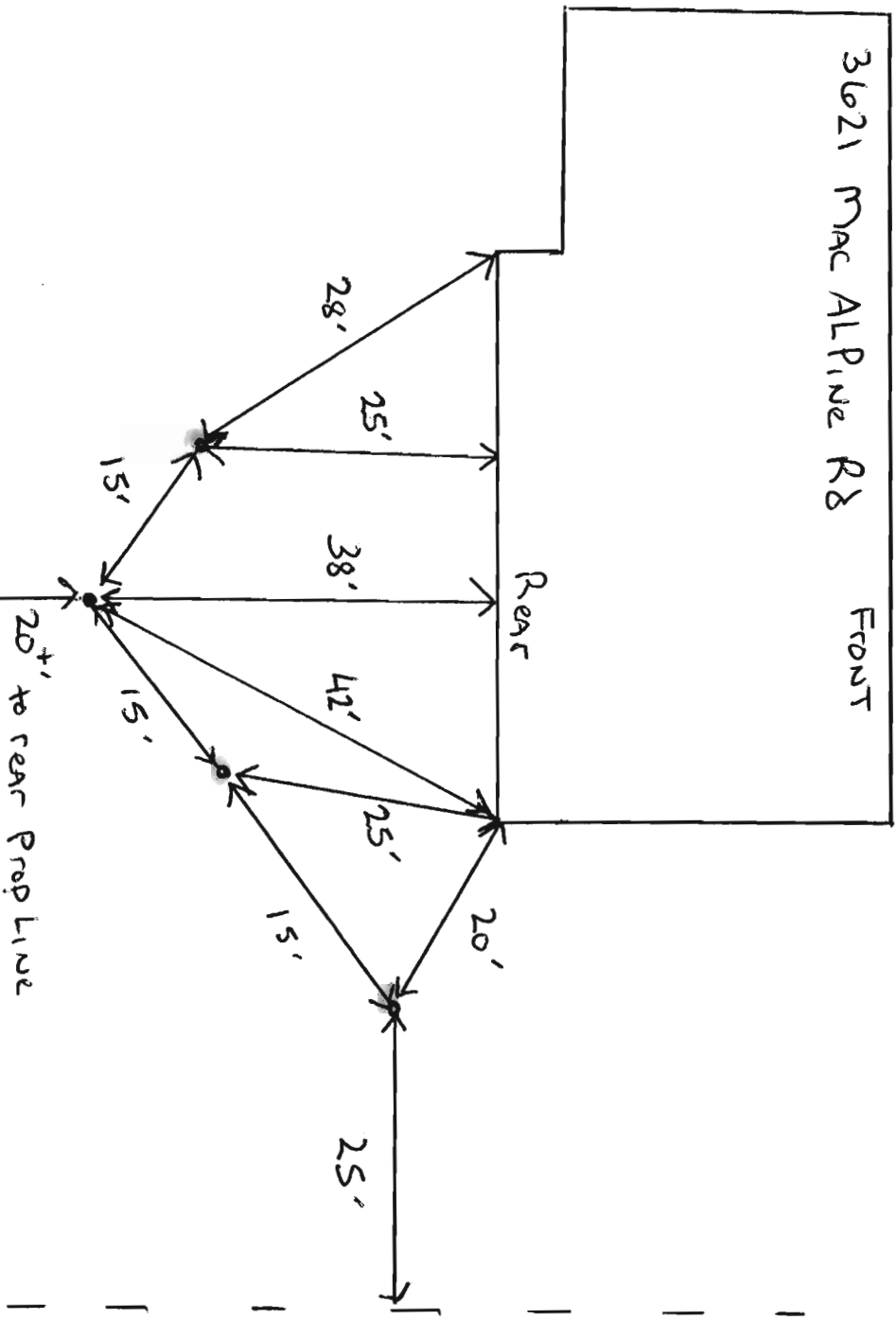
SPECIAL CONDITIONS

NOTE: APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED.

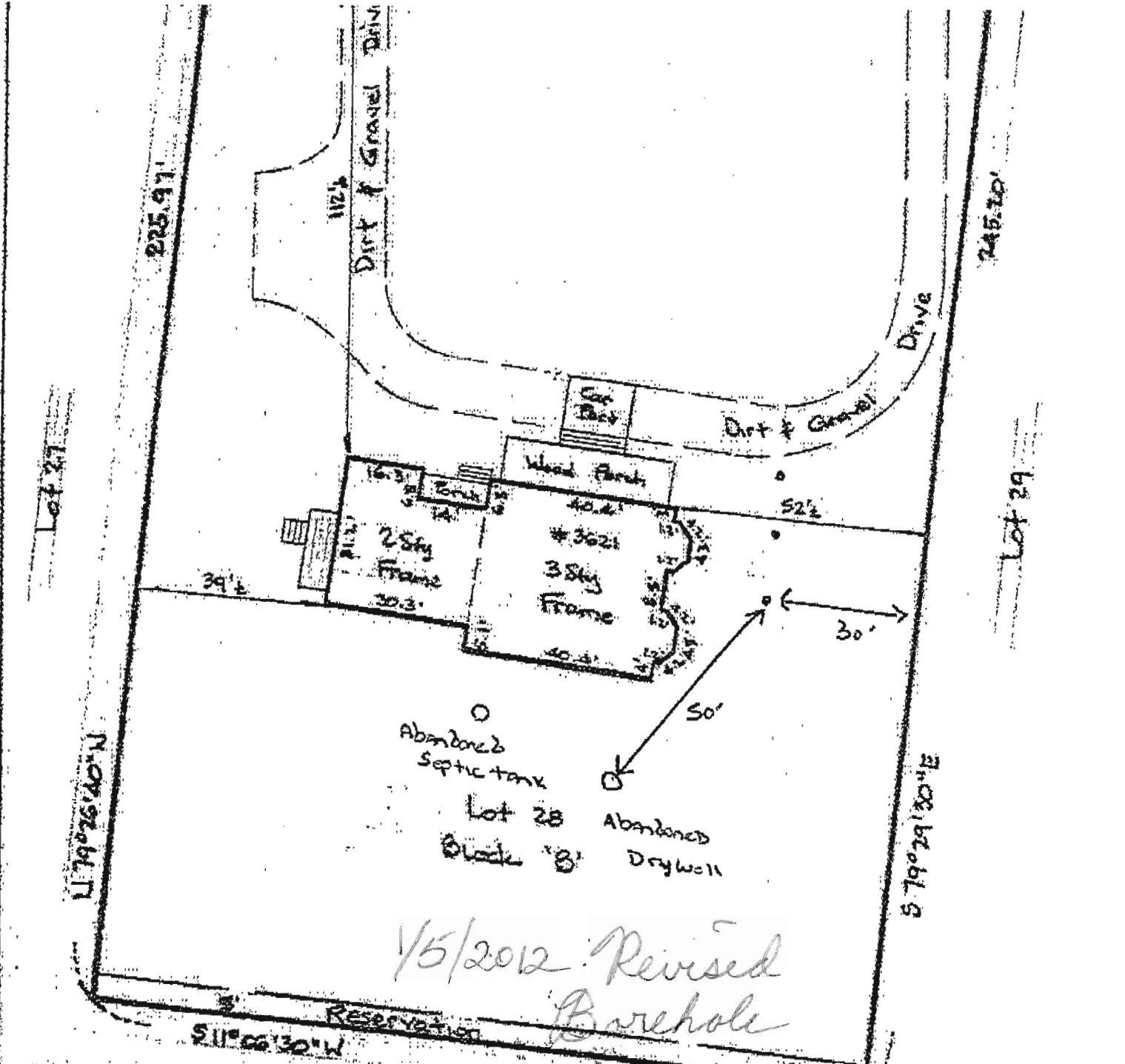
MAC ALPINE RD ↑



3621 MAC ALPINE RD FRONT



Geo Bones



1/5/2012 Revised
Borehole

THE LOT SHOWN HEREON IS IN FLOOD ZONE C PER F.E.M.A. FLOOD INSURANCE RATE MAP PANEL# 240014-0032B

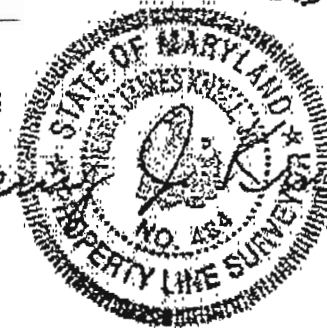
The plat is of benefit to consumer only insofar as it is required by a lender or a title insurance company or its agent in connection with contemplated transfer, financing, or refinancing. The plat is not to be relied upon for the establishment or location of fences, garages, buildings, or other existing or future improvements. The plat does not provide for the accurate identification of property boundary lines, but such identification may not be required for the transfer of title or securing financing or refinancing. The plat contains a tolerance of accuracy of two feet, more or less.

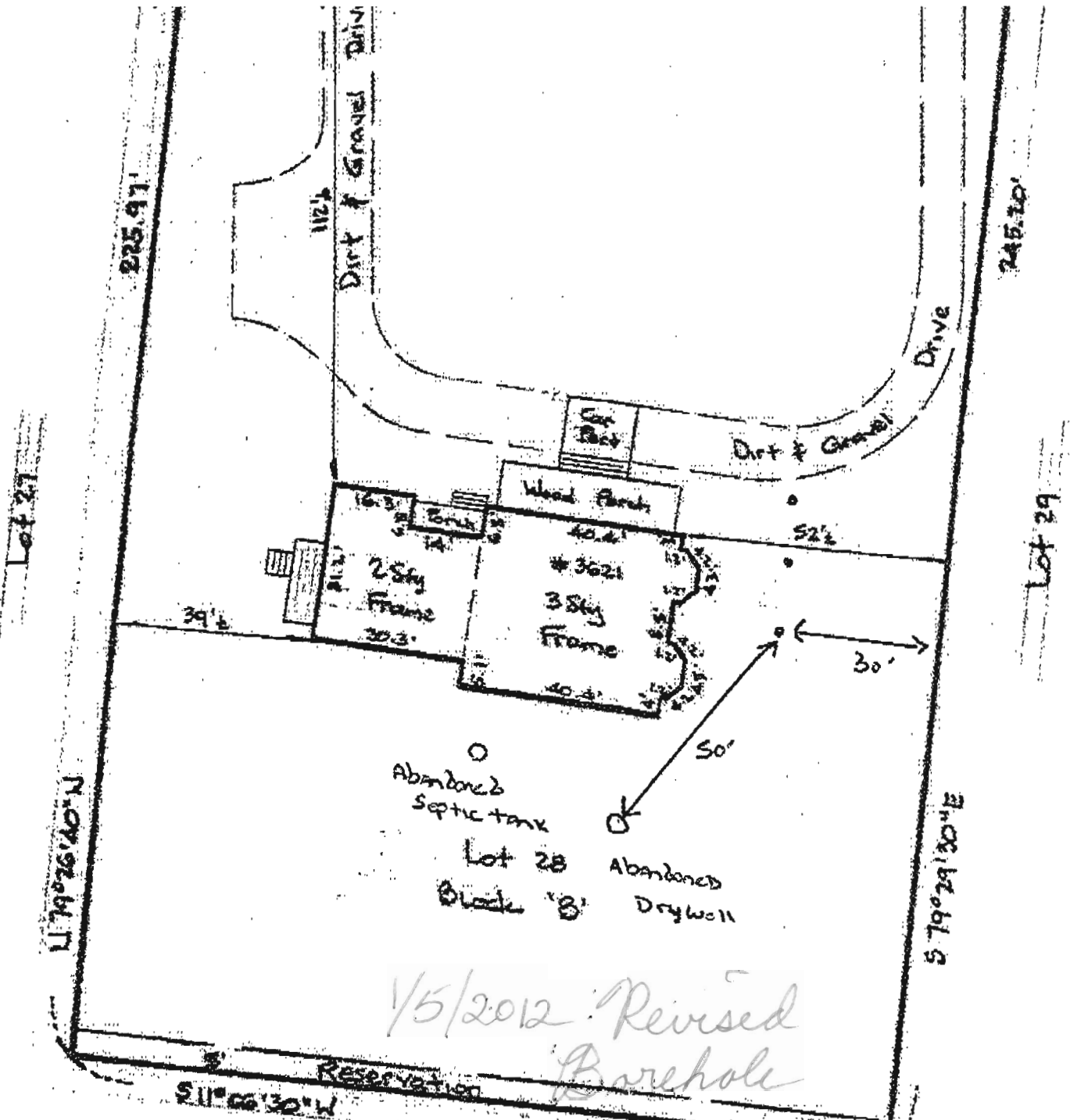
Location

3621 MacAlpine Rd
Revised Geo bore
Locations

BB

Henry J. Roll, Jr.





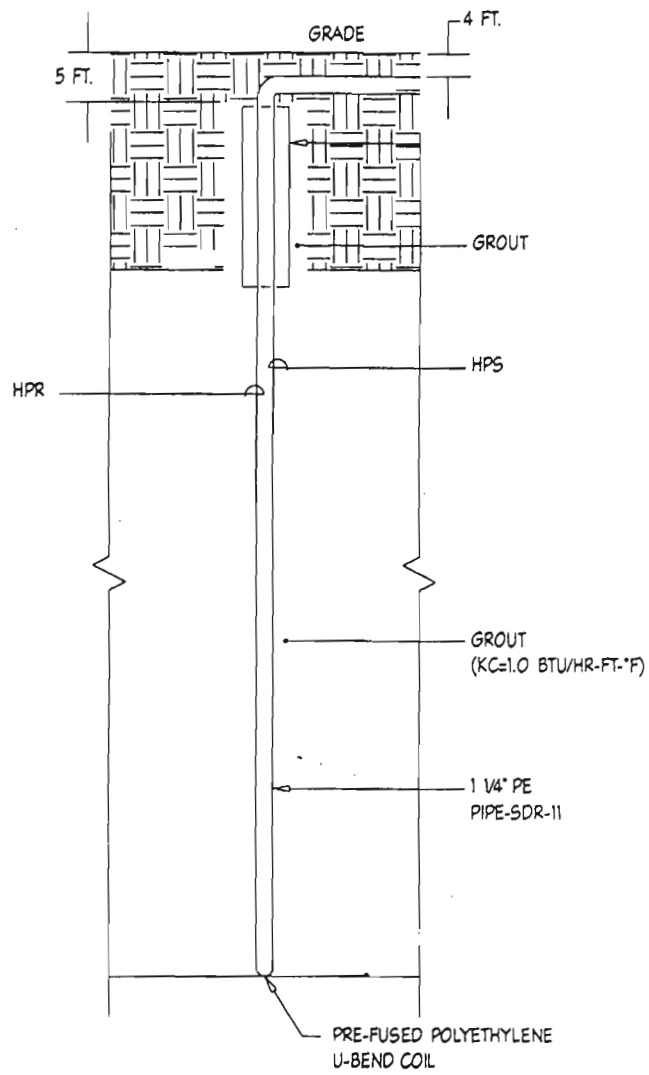
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164.21'
 Locations
 3621 MacAlpine Rd
 Revised Geo bore
 Locations

BB

Henry J. [Signature]
 STATE OF MARYLAND
 HENRY JAMES KNEELAND
 PROPERTY LINE SURVEYOR
 NO. 434



4 TYPICAL BORE HOLE DETAIL
M1.00 NOT TO SCALE

**MICHAEL BARLOW WELL DRILLING
522 UNDERWOOD LANE
BEL AIR, MD 21014
410-838-6910**

June 22, 2011

Howard County Health Department
7178 Columbia Gateway Drive
Columbia, MD 21046
Fax: 410-313-2648

Re: 3621 Mac Alpine Road, Ellicott City, Maryland

Dear Department of Environment:

Please note unless otherwise specified all geothermal bores installed by our company will be installed as follows:

Grout: Bentonite Grout 20% solids minimum
Manufacture(s): Baroid or Wyo-Ben
Will be grouted from the bottom to the top with grout material

Piping: Polyethylene SDR 11 160 PSI as recommended per IGSHPA
Manufacture: EnDot or Charter Plastics or equal, Size 1" or 1 1/4"
IGSHPA Certification Number 12687

Also attached is a cross section diagram of the bore hole.

We would appreciate your help in getting this permit released as soon as possible so that we can expedite this project. If you have any questions, please do not hesitate to contact me.

Sincerely,



Michael Barlow